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ABSTRACT

This bibliography addresses the issue of how to infuse career development activities into the academic classroom situation. Thirty-four citations from ERIC and other databases include instructional materials, journal articles, project descriptions, research reports, and teaching guides. A topical outline defines career education and infusion and discusses the rationale for infusion and what infusion involves. Three articles, representative of current wisdom in the field, are reprinted: "Relevance: The Fourth 'R'" (Ruth Sedlik); "Room to Grow: Educating for a Total Life Experience" (S. Theodore Woal); and "A Model for Evaluating Career Education Curriculum Infusion" (G. Brian Jones). The annotated bibliography is divided into six categories: topic overviews, professional preparation, planning for infusion, implementing infusion, evaluating infusion, and project descriptions. Each entry is comprised of these components: title, date, author, developer, availability, annotation, and format. (YLB)

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Career-Development Infusion

A Bibliography

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Career-Development Infusion

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Introduction

This bibliography addresses the issue of how to infuse career-development activities into the academic classroom situation.

Citations include instructional materials, journal articles, project descriptions, research reports, and teaching guides.

Materials for inclusion in this bibliography were located through the Florida Educational Information Service (FEIS). FEIS conducted searches of computerized retrieval systems (specifically, the ERIC [Educational Resources Information Center] data base).

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Increasingly career development is becoming a necessity, as businesses are demanding more qualified employees who can keep up with the new technologies. To better prepare students to meet the needs of a changing workplace, schools can integrate, or "infuse," career education into the academic curriculum. In this way, students reap educational benefits that help them both today and tomorrow.

Definition

Hoyt (1987) offers the following definition of career education today:

> Career education is a partnership effort of the educational system and the broader community aimed at contributing to educational reform through helping persons, *primarily through classroom infusion activities* [italics added], relate education and work, and acquire the general employability skills required for positive career development that will enable each to make work—paid and unpaid—a meaningful part of a total life-style in ways that effectively overcome bias and stereotyping. (p. 34).

This integrated, or "infused," approach to education involves a "weaving in" of career education concepts into academic concepts, rather than offering them in separate classes or "tracks." According to Raymond (1980), infusion is present when the following criteria are met:

- There is a career development concept to be taught—and also a regular curricular concept to be taught.
- The two concepts are interwoven in a lesson plan or activity and taught in conjunction with each other or at the same time. (p. 4).

Infusion refers then not to an overall career-education program, but to a special approach to academic curriculum content. It involves a refocusing of the curriculum rather than an addition to the system. (Raymond, 1980).

What is the rationale for infusion?

Suhor (1979) believes that the goals of career education and academics can be "congruent where subject-matter skills have broad career values" or overlapping "where career education is a natural extension of the subject"

(Doty & Stanley, 1985, p. 6). Thus the two can be fused in a way that enhances both goals.

Furthermore, infusion provides a natural and cost-effective means of fostering the cooperative effort between schools and the business community, as well as between teachers and guidance counselors (Hoyt, 1987). Additional benefits cited by Hoyt (1979) include the following:

1. Students become better prepared for the world of work.
2. By learning the importance of academic skills for career/work success, students may be more motivated to learn class material.
3. It avoids overcrowding a school's course offerings, so that students won't get shortchanged on either academics or career education.
4. It's more cost-effective, since fewer staff and less space are needed than if separate classes were offered.

What does infusion involve?

The *Blueprint for Career Preparation* (1989), developed by the Florida Department of Education, outlines six steps for career preparation, using an integrated approach to education:

1. Begin in kindergarten through fifth grade by developing in students an awareness of self and the value of work and by exposing students to careers and technology.
2. By grade six, students—with the help of their teachers and parents—should assess personal aptitudes, abilities, and interests, and relate them to careers. They should also learn the role of technology in the world of work.
3. In grades seven and eight, students should set career-oriented goals and develop four-year career plans for grades nine through twelve.
4. During high school, a new "applied curriculum" will make academic concepts relevant to the workplace, especially in communications, math, and science.
5. Students choosing postsecondary education programs should be able to successfully gain employment, advance within their fields, or change occupations.
6. Educators should intensify efforts to share information and to involve parents, business, and the entire community in this process. (p. 4)

The Florida Commission on Vocational Education recently concluded that "schools must completely integrate academic and vocational education if they are to successfully prepare students for life in the 'information age' " (*Blueprint*, p. 7). By changing the focus of education, we can increase its value to today's students and, in turn, better equip them for the responsibilities of adult life.

REFERENCES

Blueprint for Career Preparation. (1989). Tallahassee, FL: Florida Dept. of Education.

Doty, C. R., & Stanley, V. E. (1985). *Review and Synthesis of Research and Development on Career Education Infusion in the Secondary Classroom 1976–1981.* Columbus, OH: ERIC Clearinghouse. (ERIC Document Reproduction Service No. ED 260 255)

Hoyt, K. B. (1979). *A Primer for Career Education.* Washington, DC: U.S. Office of Education, U.S. Government Printing Office.

Hoyt, K. B. (1987). Trends in career education: Implications for the future in Hoyt, K. B., & Shylo, K. R. (1987). *Career Education in Transition: Trends and Implications for the Future.* (pp. 5–35). Columbus, OH: ERIC Clearinghouse. (ERIC Document Reproduction Service No. ED 290 933)

Raymond, C. D. (1980). *Career Education Infusion: A Review of Selected Curriculum Guides for the Middle School.* Columbus, OH: ERIC Clearinghouse. (ERIC Document Reproduction Service No. ED 193 531)

Suhor, C. (1979). Goals of career education and goals of subject-area instruction: A model. *Journal of Career Education, 5,* 215–219.

Sedlik, Ruth. (1980). Relevance: The fourth 'R'. *VocEd 55*(2), 27–29.

Describes a project undertaken by the Dade County (Florida) Public School System to merge career education and academics.

Woal, S. Theodore. (1980). Room to grow: Educating for a total life experience. *Journal of Career Education, 6*(3), 217–24.

Summarizes the rationale, goals, and activities for the school district of Philadelphia's infusion project.

Jones, G. Brian. (1979). A model for evaluating career education curriculum infusion. *Journal of Career Education, 5*(4), 262–76.

Presents a step-by-step guide for evaluating an infused curriculum.

Relevance: The Fourth 'R'

by Ruth Sedlik

Speaking for myself and other English teachers, we have an awesome responsibility. The skills we aim to teach cover reading, writing, speaking and listening. Once those are honed into shape, we tackle comprehending, creating and critiquing. To my knowledge, no other discipline is quite so ambitious. Is it any wonder, then, that we sometimes get a little "dry" along the way?

I can remember as a high school student threatening mayhem at the very next basic expository theme I had to write. If I, an already committed future English teacher, was reduced to that state, what were the unmotivated students threatening?

During my college years, an unpleasant yet unsurprising fact was revealed to me. In someone's study, English teachers had been judged to be the group of teachers least likely to accept change. Maintaining an open mind and adopting new educational techniques, it seems, is not our forte.

If traditions do, in fact, die hard in our classrooms, they die even harder in people's attitudes. When the candidate for student council president makes a glaring grammatical error in his campaign speech, knowing individuals in the audience do not look askance at his or her auto mechanics teacher. Much of what we expect students to master, we expect to take place in the English classroom.

With all this at stake, new instructional techniques can seem a risky matter for English teachers. In some cases, furthermore, before we can wow our students with these new techniques, we must first undo attitudes which have been reinforced over the years. How to make my students believe that my course contains useful, valuable, even enjoyable content poses no small task.

This problem of motivation is one of many common concerns faced by both the general education teacher and the vocational teacher. How can I get this student to want to learn? What does it take? For the vocational instructor, the real world of work—a formidable motivator—is right outside the shop door. Some general education teachers, however, may first have to climb down from some ivory tower and take a good look to see what's outside the door.

Career-related language arts courses can greatly increase students' motivation by showing them the relevance of their studies. (Photo Courtesy of W. C. Yates Vocational Center)

What either finds outside that door may be freedom of choice and great opportunities, as well as inflation and unemployment. Students of today cannot help but be aware of this and both the general education and the vocational teacher share the responsibility of preparing them for it.

Skills for Living

What students want and need are skills which will serve them well—beyond the confines of any classroom. The motivating factor is relevance. The transition from vocational instruction to a career is fairly well defined. Work experience programs, on the job training, and placement follow-up are but a few ways of providing motivation for students who want to know where their education is getting them.

For the general education teacher, however, the distance from A to B has traditionally been greater.

"How will learning abbreviations help me get a job?"

"Once I'm out of school, who will care if I can spell?"

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"If I learn to multiply fractions, what good will it do me?"

"After I read this short story, how will I be better off?"

Try to answer these direct questions with such platitudinous responses as "Literature will enrich your life" and see how far it gets you. Whether the questions are spoken or remain unspoken, the burden of answering them remains equally sharp.

In the mid-sixties, many students accepted the reasoning that good grades in academic courses would pave the way for acceptance into good colleges. That seemed to be motivation enough. But in the mid-seventies, we saw recent college graduates being spurned on the job market. General education teachers can no longer present the college diploma as the ultimate achievement. The skills acquired in the course of earning that degree, however, are no less valuable than they ever were.

The teachers' search for motivation may very well lead to a practical demonstration which convinces the students that what they are learning is what they will need. From the realm of career studies, the general education teacher can gain insight in how to achieve relevance and increase motivation.

Dade County Takes Action

Such a step has been taken by the Dade County (Florida) Public School System in the development of career-related courses of study in academic subjects, namely mathematics and language arts. The focus from my point of view lies with the language arts program, which now consists of courses in 11 career clusters. Included are the areas of agri-business, business, construction, electronics, graphic arts, health, home economics, mechanics, and sales and marketing. In the developmental stages are courses of study in criminal justice and the fine arts.

In accordance with one of the school system's major goals—incorporating career education into the total curriculum—local talent was employed to develop courses of study. In the best tradition of interdisciplinary cooperation, teachers were hired from both general education and vocational areas. The approach was to provide instruction in mathematics and language arts but in the context of a specific career.

This was actually a variation of the thematic approach which had been espoused by English teachers for years. One central theme, such as courage, would be the focal point from which language, reading, writing and oral assignments were derived. The career-related courses follow that same pattern, only a specific career area has been used as the central theme. Literature, composition, vocabulary and grammar assignments all relate to the occupations within each career cluster.

The general education and vocational teachers worked together to incorporate their varying fields of expertise into materials that would provide students with the latest and the best of both worlds. Vocational teachers provided the career-related fodder to which the general education teachers aligned related skills.

Teamwork Is a Key

The hopes for this non-traditional approach were realistic. Margaret Dinn, language arts consultant for Dade County, observed that since math and English were required for all students: "There was a good feeling that this was the place to get the interest of youngsters who might be turned off on a strictly language arts or math program."

The product turned out to be just that, a strong motivator for students who had previously rejected traditional academic courses.

Many potential problems were avoided by the teamwork of the vocational and general education instructors. Safeguards were introduced so that just the right amount of technical information was incorporated into each course. The format adopted was a consumable workbook called a Learning Activity Package, which lends itself to the acronym LAP. There are four LAPs for every program, each one specializing in one of the careers related to the overall topic.

In construction, for example, the four career areas are carpentry, plumbing, roofing and architecture. Within each of these four LAPs, other related jobs are included. For example, the teamwork essential between the engineer and the architect is developed.

Within each career cluster, there is no concentration on any one stratum of jobs. All levels of occupations from the unskilled to the highly skilled are included—the worthiness of all occupations is stressed. While there is no stigma attached to the description of any job, realistic information as to job availability, pay levels and necessary training is provided.

Within each LAP, there are at least four language arts skills addressed. At least two and as many as seven activities accompany each skill or objective. This provides the students with the opportunity of choosing from among the activities, which, in addition to being permitted to write in the LAP, is a major selling point with students.

Graduation caps at Texas State Technical Institute show which students have jobs awaiting them. Such signs of promise can be just one result of general and vocational educators working in concert rather than in competition.

Any LAP will include one objective on vocabulary, one on usage or grammar, one on writing skills, and one on literature or reading comprehension. The content is no watered-down pap selected only for its relevance to the topic. The activities are varied in content and ability level, while geared toward the basic skills of language arts instruction. The skill of deriving meaning from charts and graphs, for example, is well covered in the construction program—through such items as blueprints, plumbing fixture schedules, and circuit data charts.

Competency and Community

The course content is competency based and meets the grade level objectives at the state and local levels. All material includes both pre-tests and post-tests. Within a standardized format, the career-related language arts courses meet the English requirement in an innovative approach.

Community involvement has been incorporated through various advisory committees. An additional safeguard to ensure the accuracy of the content was the required sign-off by the consultant in each respective area. For example, before the mechanics LAPs would go to press, the county consultants for both trade and industrial education and language arts would approve the materials.

To further enhance the appeal of the LAP, certain visual pluses have been introduced. Each LAP has a multitude of illustrations to make the content palatable for even the most reluctant English student. Artwork is infused throughout every LAP. Some of the instructions are presented in the form of visual symbols, which are standardized throughout all of the LAPs. These symbols simplify use of the LAPs and add eye appeal in the process.

Some of the reinforcing activities are presented in the form of puzzles or games, which also appeal to many students, without detracting from the content of the various lessons. To the element of reality introduced by the career itself, there has been an attempt to infuse enjoyment rather than toil.

Another feature that works toward that end is the "hands-on" activity. In each of the career clusters, activities have been built in that require the student do something other than simply read or write answers to questions. Within the health program, for example, there is an activity where the student folds a piece of paper into the exact shape of a nurse's cap. While the relevance to the career is rather tenuous in this example, the following pluses are involved in this simple, five-minute activity:

1. Reading, understanding, and following written instructions;

2. A break in the monotony of traditional classroom assignments;

3. An opportunity to hone physical dexterity in a simple activity; and

4. Pride in successfully completing an English assignment for any student, even one whose lack of verbal skills makes this a rare occurrence.

If only one or two of these goals are achieved, that is not a bad product for five minutes of class time. Any one would serve as sufficient motivation for many students in a traditional class.

Audiovisual Appeal

Still another appeal of the career-related language arts courses is the audiovisual component that is built into the curriculum. Within each career cluster, related filmstrips and cassettes are introduced throughout the four LAPs. Particularly in the vocabulary skills, these activities are a strong feature. On an individual basis, students can practice vocabulary lessons and derive what dictionaries are unable to provide. The student can hear the proper pronunciation of words and, in related activities, pronounce them and hear the playback.

The individual LAPs provide students with the opportunity to work at their own pace, make choices, and become aware of many types of careers in the process of acquiring language arts skills. In the Dade County schools, the program has been an excellent motivator and has had the by-product of reducing sexual stereotypes. Traditionally male or female careers are depicted open-mindedly within the LAPs. Requirements of a physical nature, such as strong legs (floor covering mechanic) or good vision (surveyor), are described objectively and with the aim of avoiding sexual stereotypes.

"In the Dade County schools, the program has been an excellent motivator and has had the byproduct of reducing sexual stereotypes."

Begun on a limited pilot basis in 1973, the career-related language arts program has expanded its content. The materials undergo regular revision and updating. Since its beginning, 20 junior, senior and adult centers have incorporated the program in their curriculums. Implementation is flexible. Miami Edison Senior High uses the career materials as part of the Title I course of study. American Senior High implements the language arts materials as part of the Career Education for the Vocationally Disadvantaged project. At Nautilus Junior High, the LAPs have been used by the Honors English teacher.

The career-related language arts program as developed in the Dade County schools does not solve all problems encountered in a traditional English class. The very fact that students are working at varying speeds necessitates that the teacher be extremely well organized or there will be no time available for individual assistance. Keeping track of the LAPs, cassettes, filmstrips and audiovisual machines is necessary and time consuming. To be sure, the program is no panacea, but few teachers, whether vocational or general education, expect to find such a phenomenon.

Positive Results

In the county's longitudinal evaluation, the following results of the career-related language arts program have been observed: (1) improved achievement in language arts; (2) increased career knowledge; (3) decreased discipline problems; (4) decreased sexual stereotyping; (5) improved attendance.

This has been accomplished through a team effort. Ernest Upthegrove, consultant for career education, conceptualized the program and hired Judith Rosenberg, who coordinated its writing. John Standridge, executive director for the Division of Vocational and Adult Education, and Richard White, executive director for the Division of Elementary and Secondary Education, have consistently provided support and guidance.

This cooperative effort—extending from community support, the school board, and the office of Superintendent Johnny L. Jones through the individual classroom teacher—has been one of the major strengths in the ongoing development and implementation of career education in Dade County public schools.

The end product is a well-developed course of study which combines variety, eye appeal, enjoyment and vocational reality while providing instruction in the basic skills of English and career information. This effort has helped to develop the attitude that all careers are worthwhile and all careers merit dignity. Above all, the courses provide all students with an opportunity for success. This end has been achieved through a cooperative effort, especially through the new-found partnership of vocational and general education teachers.

About the author

Ruth Sedlik teaches English at American High School in Hialeah, Florida. She has served as language arts department head at Lake Stevens Junior High and as a coordinator for Ohio State University's Career Planning Support System, and has conducted workshops in career-related language arts for the Florida Division of Rehabilitative Services and the National Council of Teachers of English.

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Room to Grow: Educating for a Total Life Experience

S. Theodore Woal

The career education program *Room to Grow* is the outcome of the School District of Philadelphia's priority to infuse self and career awareness concepts in the elementary level curriculum. The fifth and sixth grades were selected as the initial target grades. It was felt that students in these grades possessed the research ability and curiosity to do investigative work. Sixth graders also were in transition to a middle school or a junior high school and it was appropriate to prepare these students for continued career development activities at their next educational level.

Working with a group of interested teachers, a teacher guide and student workbook were developed and piloted in several schools in the early 1970s. The evaluation of the program by the teachers suggested a downward extension. During the ensuing years 1973-77 groups of teachers from each grade level, four through kindergarten, and the program supervisor developed materials for all grades.

The teacher guides, resource manuals, and student workbooks were supplemented by a series of 26 career awareness booklets. These booklets were developed with the cooperation of industry, business trade organizations, and associations in the metropolitan Philadelphia area. Each booklet contained a text and illustrations of the various occupations included in the cluster. Two small grants from the Federal program office of the School District supported some of the developmental work, and two state evaluations gave the program excellent ratings.

Today the program is in effect in over 110 elementary and middle schools, and over 50,000 students are involved. The goals at each

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grade level and the developmental units for each grade can be found in ERIC, ED 117-342 (1976).

The *Room to Grow* program attempts to enlarge students' awareness of the world of work, and to develop relationships between home, school, community, jobs, and self image. The program presents a framework for developing respect for the dignity of work and an awareness of the need for all kinds of workers.

The goals of *Room to Grow* are developed through six phases: (1) teacher guided projects, (2) discussion with career education presenters from industry, business, and upper schools, (3) trips into the world of work, (4) pupil created projects, (5) community, industry, and parental involvements, and (6) co-curricular correlation and infusion.

A RATIONALE FOR ROOM TO GROW

Interest in career development begins early in life. The experiences of childhood set the stage for later career decision making. Career choice is not a single choice, an event in time, but a series of choices which are made as the individual passes through various stages of development. Career development is seen by Super (1957) as an implementation of self concept, by Havinghurst (1964) as achieving an ego-involving job, and by Roe (1956) as related to personality differences which are rooted to a considerable extent in childhood experiences. An individual's career pattern has many determinants--family, socioeconomic level, mental ability, sex role, personality characteristics, and the opportunities to which one is exposed.

Family Attitudes and Values

Children begin to acquire attitudes and values early in life, first from their parents and then from peers in the neighborhood and school. Since career preferences are attitudes toward work and occupations, it follows that young people who identify with their parents and their subculture may begin to develop preferences for the type of occupation which their parents value.

Socioeconomic Conditions

A child's perception of work may be complicated by the work roles observed in the immediate milieu. The middle class child may come to feel that occupational success must be in a white collar job to satisfy parental ambitions. On the other hand, children from low income levels may not have a suitable occupational role model in the family, and few family activities related to their aspirations. If

they aspire to occupations which are above those of their parents, they are dependent upon exceptional relatives, upon the school, such sources as fiction, T. V., books, and other sources outside the home.

Educational Expectations

The relationship of education to the level of motivation in our society is direct. John Gardner (1963) indicated that the goals a young person sets are heavily affected by the framework of expectations of one's immediate society. If much is expected by parents and teachers, the chances are that the individual will expect much of the self. The school can create a climate wherein the child can dare to achieve an ideal self.

Development of Self Concept

To a large extent the self concept is rooted in childhood experiences. An infant learns to view the self in certain ways because of the treatment accorded. As a child grows older certain concepts are internalized through experiences and the attitudes and values of parents, siblings, peers, and other contacts. Children begin to develop a concept of self through their contacts and identification with significant adults. This process of self identification continues throughout one's life span. Thus, one's self image is based on a person's perceptions of what is internalized from what is perceived.

Role Models

The bases for career choices begin in early childhood and are affected in part by the quality of experiences or lack of experiences to which an individual is exposed. Growing up, developing a personality, being confident of one's ability to cope with the world of work, all influence career choice making. Research indicates that young people are very often influenced toward a particular occupation by a significant person in the young person's life. Frequently young people will say, "I want to be a nurse, or a doctor, or a research chemist because I had this science teacher who made science so interesting." Or, "When I grow up, I want to be an insurance agent. I picked this occupation because I want to help people plan for their future so they have money when they get sick or need to send their children to school."

The who in a person's life is important in shaping a career plan. A child who does not have such a person or persons may be seriously disadvantaged. It is in the miniature society of home and school that the individual gains the self respect and self dignity that will enlarge or restrict aspirations.

A Final Note

The above view of career development gave direction to the development of the *Room to Grow* Program. Experiences in the program were developed which focused on elementary school children's feelings about the self, the image of the person they would like to become, and the conditions which operate either to expand or to restrict their view of the world and their range of choices. One purpose of the program was to improve self-confidence, to provide a wide range of career experiences, and to develop a reasoned approach to the process of career choices.

ROOM TO GROW

General Goals

A review of the literature prior to the initiation of the program suggested the following general goals for *Room to Grow:*

1. Awaken in the child a sense of excitement and the hope about the self and possibilities as an adult and establish relationships between persons.

2. Use the child's innate curiosity and delight in discovery to help develop a positive self-concept and the dignity of each individual.

3. Provide experiences through a variety of activities that enable the child to expand vocational and occupational awareness, and the value of all kinds of work and leisure activities.

4. Develop a desirable and effective approach to the process of career choice.

Specific Objectives

The teachers involved in the preparation of the curricular materials for the program agreed on the specific objectives listed below. The guides, resource materials, and student workbooks were to reflect each objective at a developmental level appropriate to the grade and maturity of the student.

1. Enlarge the student's awareness of the world of work.

2. Develop an awareness of the relationship between home, school, and the world of work.

3. Develop an acceptance of individual differences.

4. Develop an awareness of the need for all kinds of work for persons in our society.

5. Enhance self dignity and acceptance of the self.

6. Develop the concept that "interests" and "vocational goals" change as the maturation process proceeds.

7. Develop the concept of the dignity of work.

TEACHER GUIDED PROJECTS

Teachers and students are provided with manuals, guides, and workbooks for kindergarten and grade one through six. These materials develop a series of teacher directed projects and activities. Each project is presented in detail and at a developmental level commensurate with the age and grade level of the students, and their individual concerns and interests. Thus, within a given class, projects from various grade level manuals may be in progress.

DISCUSSION WITH RESOURCE PRESENTERS

The teacher directed projects are complemented with numerous visits to the class by representatives from commercial and industrial establishments, high schools, and colleges. In every case the visitors present role models for the pupils. What they have to say is usually supplemented by demonstrations. The presenters, when appropriate, wear the uniform of their job; however, the emphasis is always on the person in the job and distinct from the job itself. Thus, the student meets a successful person as a role model. In addition is the appearance of career presenters who have been requested by the pupils. These include parents, workers from the immediate community, school faculty members, former students, high school students preparing for various vocations, and other small business people.

Particular emphasis is placed on near peers and in this context senior students from technical high schools and other upper schools talk with Room to Growers about themselves--where they attended elementary school, why they are pursuing their particular studies, what they hope to be, and what plans they have for the future.

OBSERVATION IN THE WORLD OF WORK

Trips to the world of work, business and industrial establishments, and agencies such as the Horticulture Society and the Society for the Prevention of Cruelty to Animals give the students an opportunity to observe people at work using the machines and technology of business and industry: "A drafter uses a lot of instruments. . . the architect showed me how to use a T-square and triangles." "When the telephone company visited our class we handled many different kinds of communication equipment."

To supplement the career resource presentations and visits to industry a series of career orientation booklets were developed with the cooperation of local industry, business, and industrial establishments. Students receive a copy of each booklet when a particular occupational cluster resource person delivers a class presentation. The booklets illustrate in text and pictures, games, and puzzles the cluster of jobs within a plant or industry segment such as building construction, health careers, or restaurant jobs (School District of Philadelphia, 1977).

PUPIL CREATED ACTIVITIES

The pupil created activities and class projects present an opportunity for individual students and small groups or classes to engage in the research process and experience an "esprit de corp" through working together. They express their special interests and correlate curricular activities and career goals. These projects permit a "hands-on" experience using the tools and technology of industry. Examples of this type of activity include a model of a city, a class store, a class play, developing career posters, writing poems, and creating worker puppets.

PARENT, COMMUNITY, INDUSTRY INVOLVEMENT

Parents and other community residents appear as resource presenters, act as helpers on trips, greet career visitors to a class, aid in the development of career bulletin boards and career material centers, assist students with the development of projects, and prepare career programs for the Home and School Associations.

CO-CURRICULAR CORRELATION AND INFUSION

Correlated curricular and supplemental enrichment activities include such projects as calculating the salaries for jobs, determining wages and withholding taxes, and calculating other deductions from weekly or monthly salaries. Written expression is developed through writing letters to invite career resource persons requesting occupational literature and career information, and letters of thanks. Articles about careers are written for publication in school and community papers. Students use many diverse materials as techniques to infuse career education activities in the curriculum; daily newspapers, magazines, slides, diagrams, recordings and tapes, maps, pictures, books, television programs, tools, toys, and tables and charts (Woal, 1977).

SUMMARY

Room to Grow implements the concept of educating for a total life experience. The program helps young people to become more aware of self and the world of work. It is an infusion program presenting teachers with guides, manuals, student workbooks, activity suggestions and supportive service and assistance that enables the teacher to include career education activities as an integral part of the daily curriculum exposure. The mission of Room to Grow is to develop and firm the relationships between home-school-education.

Room to Grow also helps students become aware of their potential and stimulates the development of career conscious individuals. These are individuals who in Gysbers, Miller and Moore's words (1973) are "able to visualize and plan for life careers." The challenge of education is to facilitate career consciousness in all students at all levels.

REFERENCES

Gardner, J. S. *Self renewal.* New York: Harper & Row, 1963.

Gysbers, N., Miller, W., & Moore, E. J. (Eds.). *Developing careers in the elementary schools.* Columbus, Ohio: Charles E. Merrill, 1973.

Havighurst, R. J. Youth in exploration and man emergent. In H. Borow (Ed.), *Man in a world of work.* Boston: Houghton Mifflin, 1964.

Roe, A. *The psychology of occupations.* New York: John Wiley, 1956.

Room to Grow. School District of Philadelphia, Vocational Guidance Service: Career Awareness Booklets, 1977.

Super, D. *The psychology of careers.* New York: Harper & Bros., 1957.

Woal, S. T. *Self awareness and career awareness in your curriculum.* Pennsylvania: Instructo Division, McGraw Hill Co., 1977.

Note:

I wish to acknowledge the assistance that Althea Cousins and Samuel Munder gave me in the planning and implementation of Room to Grow.

Althea Cousins is the Director of the Pupil Personnel and Guidance Division and Mr. Samuel Munder is the Assistant Director of the Vocational Guidance Service, of the School District of Philadelphia, Philadelphia, Pennsylvania.

A Model for Evaluating Career Education Curriculum Infusion

G. Brian Jones

The 18-task statement presented as Display 1 on the next page represents one approach for systematically evaluating the procedures and effects of implementing career education through the curriculum. Because it concentrates on what students are receiving in the way of career education in classrooms as well as on what influence activities and materials have on them it does not address such evaluation issues as why or how the curriculum changes occurred or the nature of the staff training that led to them.

The evaluation model summarized in Display 1 adapts and extends the 13-step guide Young and Schuh (1975) outlined for evaluating career education programs in general. Two of those adaptations are fundamental to understanding the assumptions on which the proposed model is founded. *First*, in it the word "tasks" is much preferable to "steps" since the latter usually implies a rigid chronological sequence that does not seem to encourage the possibility of completing an activity and, on the basis of its results, returning to rework the products of earlier tasks. *Second*, the number of tasks is not an important concern. While it is true that some people react in horror to a list containing as many as 18 items, others find that they are comforted by having a detailed initial map which they can constructively use to prevent wastefully meandering during their evaluation study. An attempt has been made to write this model at a level that is sufficiently general so you can tailor it to your purposes of evaluating curriculum infusion. The remainder of this paper briefly describes the four evaluation phases summarized in Display 1.

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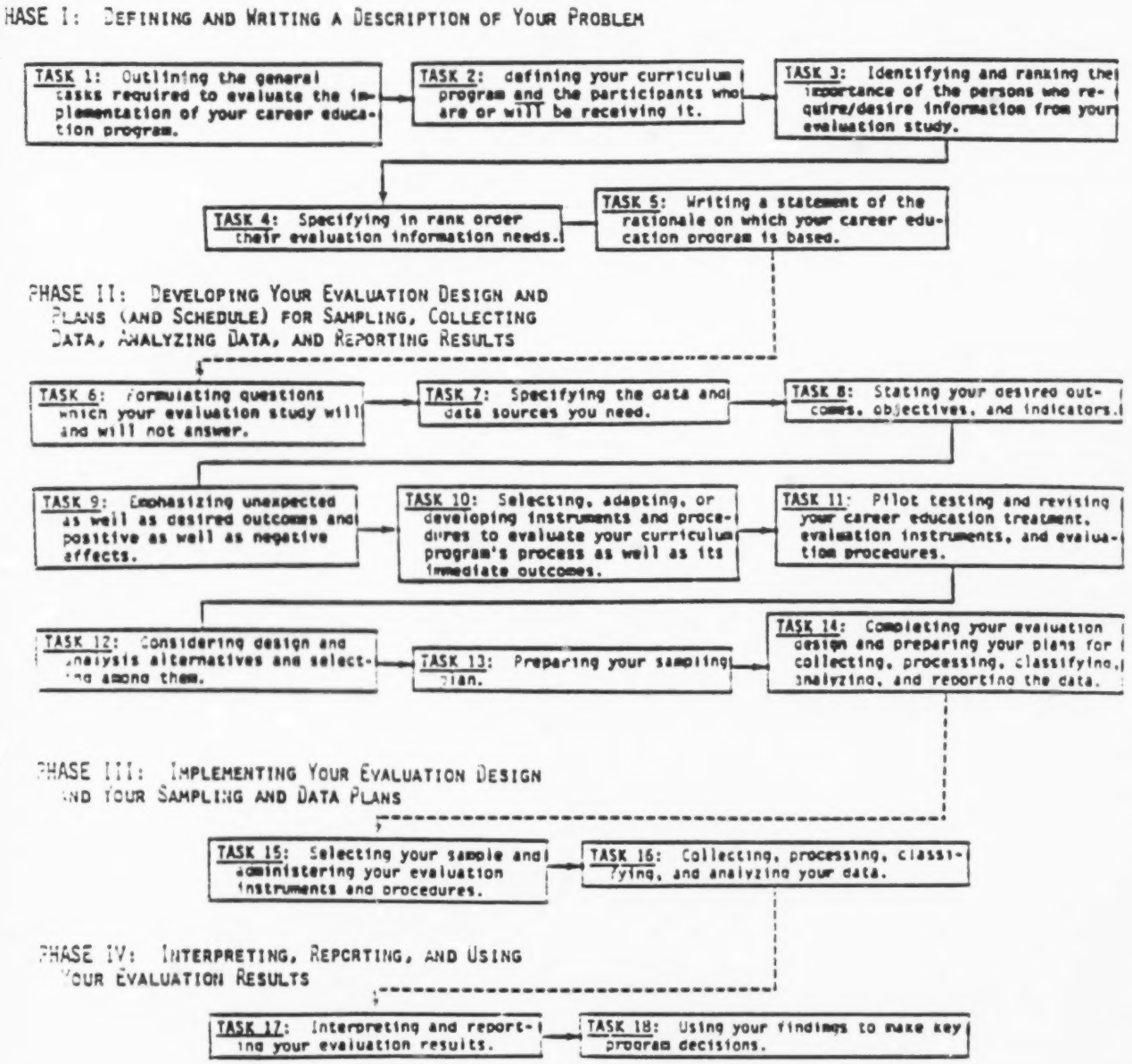
DISPLAY 1

A SUMMARY OF TASKS FOR EVALUATING

THE IMPLEMENTATION OF CAREER EDUCATION CURRICULUM


PHASE I: DEFINING AND WRITING A DESCRIPTION OF YOUR PROBLEM
TASK 1: Outlining the general tasks required to evaluate the implementation of your career education program.
TASK 2: defining your curriculum program and the participants who are or will be receiving it.
TASK 3: Identifying and ranking the importance of the persons who require/desire information from your evaluation study.
TASK 4: Specifying in rank order their evaluation information needs.
TASK 5: Writing a statement of the rationale on which your career education program is based.
PHASE II: DEVELOPING YOUR EVALUATION DESIGN AND PLANS (AND SCHEDULE) FOR SAMPLING, COLLECTING DATA, ANALYZING DATA, AND REPORTING RESULTS
TASK 6: Formulating questions which your evaluation study will and will not answer.
TASK 7: Specifying the data and data sources you need.
TASK 8: Stating your desired outcomes, objectives, and indicators.
TASK 9: Emphasizing unexpected as well as desired outcomes and positive as well as negative effects.
TASK 10: Selecting, adapting, or developing instruments and procedures to evaluate your curriculum program's process as well as its immediate outcomes.
TASK 11: Pilot testing and revising your career education treatment, evaluation instruments, and evaluation procedures.
TASK 12: Considering design and analysis alternatives and selecting among them.
TASK 13: Preparing your sampling plan.
TASK 14: Completing your evaluation design and preparing your plans for collecting, processing, classifying, analyzing, and reporting the data.
PHASE III: IMPLEMENTING YOUR EVALUATION DESIGN AND YOUR SAMPLING AND DATA PLANS
TASK 15: Selecting your sample and administering your evaluation instruments and procedures.
TASK 16: Collecting, processing, classifying, and analyzing your data.
PHASE IV: INTERPRETING, REPORTING, AND USING YOUR EVALUATION RESULTS
TASK 17: Interpreting and reporting your evaluation results.
TASK 18: Using your findings to make key program decisions.

PHASE I:
DEFINING AND WRITING A DESCRIPTION OF YOUR EVALUATION PROBLEM

Hopefully, the 18-tasks in the recommended model fulfill the intent of Task 1. If not, you should adapt them and evolve an outline of your own general approach to your program evaluation. Task 2 requires that you decide what and whom you are dealing with. In order to perform this task you might be able to use existing recorded data, have to collect new information, estimate what you (or other experts) think the career education program and participants are, or employ a combination of these three methods. No matter which method you use, by having a classification guide like the one presented in Display 2 you will make your efforts more efficient. Adapted from statements by McLaughlin (1976) and Hoyt (1977), the set of variables displayed helps you identify which career education activities are being infused into the curriculum in, or as an extension of, the classroom and the numbers of students participating in them, by each grade level.

As for Task 3, its basic premise is that in order for the results of your evaluation study to be as functional as possible they must provide information useful for decision making. This premise poses the issue of determining who your "decision-makers" are. Who are the persons who will make key decisions based on your evaluation findings and conclusions? If more than one group of decision makers is involved, whose decision needs are most important? Once you have answers to these questions, you can tackle Task 4 which requires that you get your key decision makers to specify their decision information needs. A ranking of those needs will enable you to determine ones you will be able to address in your evaluation study. Once the selected needs are translated into specific evaluation questions, they can influence the design of your study. Careful documentation of each decision maker's (or group's) needs takes time and effort but avoids the risk of having such persons conclude later that your evaluation findings are unresponsive to their priorities. An interview process, using a card-sort technique (in which some cards contain brief statements describing questions your study might answer, and blank cards that allow decision makers to add apparent omissions) can expedite the documentation of decision needs. In addition, this technique can be used to have interviewees rank their needs so that comparisons of their responses can be made.

To complete the Phase I activities you should combine the products of Tasks 1-4 into a "Statement of Rationale" communicating the purpose of your study. A written statement of this type should become the fundamental blueprint for evaluation planning during the remainder of your study. It could discuss such topics as the following:

- the program's participants and their current needs:

- the general outcomes that these participants are expected to experience as a result of the program;
- the kinds of curriculum activities that are implemented in order to bring about the intended outcomes;
- a rationale which describes how these general outcomes stem from the students' needs, and how the kinds of activities are likely to achieve the desired outcomes;
- the evaluation information needs that could be addressed by this evaluation study; and
- the general evaluation tasks the team anticipate performing in order to conduct the remainder of this study.

PHASE II: DEVELOPING YOUR EVALUATION DESIGN AND PLANS (AND SCHEDULE) FOR SAMPLING, COLLECTING DATA, ANALYZING DATA, AND REPORTING RESULTS

An excellent article by Fullan and Pomfret (1977) highlights the possibility that the evaluation of exactly how innovations are implemented has been sorely neglected. These authors want to see evaluations give more attention to tracking and judging how a curriculum change is put into operation. In fact, they are convinced that evaluations usually concentrate only on how such changes are planned and what results they produce. Their article focuses on two concerns: one of which they call "fidelity of implementation." That refers to the extent to which what is actually done matches how it was originally planned or intended for implementation. Fullan and Pomfret call their second concern "mutual adaptation"--e.g., the ways people modify career education activities during implementation.

Task 6 necessitates that you carefully examine the evaluation information needs listed in Task 4 in order to produce a set of questions that can be answered from the evaluation design you develop as well as ones that will not receive attention. The distinctions made by the above authors could enable you to insure that the design you evolve addresses *both* process (implementation) questions *and* impact questions (ones requiring an assessment of how students and others benefit or suffer because of career education activities related to the curriculum). Once such questions are accepted, each of your subsequent data collection efforts should be related to at least one of them.

In Task 7, you select for each of your high priority evaluation questions: (1) the specific types of data that could answer it, and (2) the sources from which those data could be gathered (e.g.,

DISPLAY 2

CAREER EDUCATION CURRICULUM-RELATED VARIABLES BY CATEGORY[1]

A. Types of CE Instructional Materials

1. administrative material
2. bibliography or directory
3. curriculum guide
4. evaluation instrument
5. instructional unit
6. instructional module
7. laboratory-practice manual
8. simulation description
9. student workbook or manual
10. teacher's guide
11. textbook
12. audiotape
13. cassette
14. film (8 or 16 mm)
15. filmstrip
16. record, disc
17. slide
18. transparency
19. video tape
20. activity kit
21. game
22. puzzle
23. tools and related items
24. work folder on careers
25. radio or television program
26. community resource guide

B. Types of CE Instructional Media

1. film, filmstrip, slide, videotape
2. printed material (written word)
3. audio-visual (record, audio-tape, cassette, transparency, etc.)
4. manipulatives (puzzle, game, tools, blocks, etc.)
5. spoken word, lecture
6. visuals (bulletin board, pictures, etc.)

C. Types of CE Instructional Activities

1. self-instruction (not programmed)
2. programmed instruction
3. class discussion (group or panel)
4. individual or group research project
5. simulation or gaming
6. psychodrama
7. role play
8. field trip
9. demonstration
10. drill and practice
11. supervised work experience (paid or volunteer)
12. psychomotor activities
13. manipulative skill development
14. interview with workers
15. speaker/lecture
16. job observation/job shadowing
17. computer-assisted instruction
18. individual and group career counseling coordinated with classroom activities

D. CE Infusion Strategies

1. special career education course(s)
2. separate career education units or topics in existing courses
3. career education activities presented as enrichment options in existing courses
4. career education concepts and activities used to supplement basic subject matter in existing courses

E. Types of Organizational Patterns for CE Instruction

1. large group instruction
2. small group instruction
3. open school situation
4. unique grade organization
5. extra curricular setting
6. modular or flexible schedule
7. community organization-based classroom
8. industry-based classroom
9. business-based classroom
10. learning/interest centers in classrooms
11. classroom program closely articulated with one or more career resource centers in same building

F. Staffing Patterns for CE Instruction

1. team teaching (e.g., teachers and counselors)
2. paraprofessional support
3. peer student support
4. special support personnel
5. specially trained instructor(s)

[1]Adapted from McLaughlin, D. H. Career education in the public schools, 1974-75: A national survey. Palo Alto, California, American Institutes for Research, 1976; and Hoyt, K. B. A primer for career education. Monographs on career education. Washington, D.C.: U.S. Government Printing Office, 1977.

people's statements: observations of people, products, and facilities: reviews of available records and documents). If you carefully select your data and sources before considering the data collection instruments you will use, you will be less likely to let the instruments dictate your data, as so often happens. Once you have determined the above key ingredients, you should be ready to tackle the Task 8 need for precise evaluation objectives. Such statements will describe exactly what classroom teachers, and staff working with them, are expected to accomplish by infusing career education into the curriculum. The accomplishments could be written as: (1) *process statements*, describing actions the implementers are performing and products they are producing; or (2) *product statements*, outlining ways the activities are thought to be affecting the lives of the student participants and others. Going even further, those statements that describe what people will do could be labeled as *process outcomes*, which if augmented with standards or "indicators" by which people's actions could be judged as desirable or undesirable, could become *process objectives*. Similarly, *product outcomes* and *product objectives* could be differentiated by requiring that the latter term be used only for statements that describe measurable events, products, or results.

You probably will find that getting statements of desired career education implementation activities and procedures will not be too difficult. However, evolving a coherent set of *product objectives* that describe measurable student, staff, parent and/or community outcomes of career education will require much more pain. The latter will require time and energy to help teachers, and other staff, define *short-term* (i.e., those that are expected immediately after a projected career education activity has occurred) and *longer-term* (i.e., those that are expected to develop slowly as the delayed result of a projected activity or cumulatively as a result of multiple activities) *outcomes and objectives for students*. It will be hard work, but not impossible, to help the career education implementers transform general statements of student outcomes (e.g., knowledge, attitudes, performance skills, or subsequent career development actions) into measurable objectives that specify indicators which are easily and openly observable, recordable, and scorable providing uncontroversial evidence: (1) that the projected activities occurred; (2) on the degree of their occurrence, relative to what was actually planned; and (3) on the magnitude and/or quality of effects on students.

However, Task 8 can lead to a one-sided approach to measurement since the objectives produced there describe what should be observed but ignore unanticipated or unintended results. Unexpected effects, which always occur in any learning program, sometimes can be more exciting than can the prespecified ones. In addition, negative effects, not just the planned positive results stated in objectives, can be extremely informative. Task 9 enables you to insure that your study's design and procedures will collect data from all vantage points.

When you approach the Task 10 process of choosing your data collection instruments, you will be tempted to simply select from those listed in "catalogs" such as the ones produced by Young and Schuh (1975), Hoyt (1976), the Instructional Objectives Exchange (1976), the Texas Partners in Career Education (1976), the Center for Vocational Education (1978), and the National Assessment of Educational Progress (1977). This adoption temptation is difficult to resist since the alternate strategies of *either* adapting available instruments to your Task 9 objectives *or* developing your own measures requires hard work. Whichever strategy you use, you should begin by listing some of the standards you want your instruments to meet and considering as many different types of evaluation instruments and procedures as possible. Display 3 provides some example standards and types of evaluation approaches.

If in the area of selecting student achievement measures you get bogged down on the distinction between the purposes and advantages of criterion- and norm-referenced tests, you might find help in a series of booklets published by RMC Research Corporation (Fagen & Horst, 1976; Tallmadge, 1976; and Tallmadge & Wood, 1976). For example, one booklet outlines four guidelines for selecting a norm-referenced test, while another summarizes conditions within which criterion-referenced instruments should and should *not* be used. One booklet concludes that the differences between these two types of instruments have been overemphasized. It stresses that the main difference is that norm-referenced tests are more global, i.e., they have fewer items per objective.

Task 11 suggests that you "pilot test" each of your evaluation instruments and procedures with about 10-12 representatives from each respondent group for which it is designed. This technique will enable you to be assured that the items themselves and the methods of administration, data collection, and scoring are feasible and desirable. If your field trials identify problems, corrections can be made before you invest large expenses and amounts of time in your full-scale study. In fact, if you are evaluating a new career education program that has not been tried in the "field," you would be wise to recommend that it, and not just your evaluation measures, be piloted and revised before your study is initiated.

For Task 12, an "evaluation design" can be defined as a plan that arranges persons (participants), their activities, and evaluation instruments and procedures in such a way that inferences can be made about the probable impact of those activities on a larger group of similar people. Display 4 illustrates four design alternatives, the last three of which were used to categorize all studies summarized in a national survey of career education evaluations in 1975-76 (New Educational Directions, 1977). In Display 4 diagrams, "X" represents the implementation of a career education activity, or program of activities, and "O" the administration of an evaluation measure. That display also provides some example statistical techniques for analyzing each design's data and identifies the type of question

EXAMPLE STANDARDS FOR ASSESSING EVALUATION APPROACHES

- Must be compatible with your process and product objectives for the implementation of career education through the curriculum.
- Must provide appropriate coverage of program side effects as well as desired outcomes.
- Must be capable of being administered by persons and procedures that are objective, i.e., that avoid bias
- If used to assess student outcomes, must be appropriate to the participants identified in Task 2 (e.g., will have a desirable level of challenge for all students).
- If used to assess student outcomes, must be possible that same or parallel forms can be used on a pre- and post-program basis.
- If used to assess student outcomes, must be accompanied by reasonable and verifiable reliability and validity data.
- Must be relatively efficient in terms of being reasonable to purchase or produce and easy to administer and score.

EXAMPLE TYPES OF EVALUATION APPROACHES

- Staff reporting forms and checklists for gathering information on whether or not planned activities stated in process objectives had been completed and when.
- Standardized norm-referenced tests and specially developed criterion-referenced tests keyed to specific student outcomes.
- Observation scales for assessing and recording events and products in natural or simulated settings.
- Interview guides for individual or small group administration for obtaining opinions, recommendations, critical incidents, and feelings from respondents.
- Self-administered questionnaries serving purposes similar to the interviews.
- Content analysis checklists for summarizing information compiled through records' searches and document reviews.
- Attitude and opinion surveys for requesting respondents to rate their degree of agreement-disagreement on selected topics.

DISPLAY 4

FOUR EVALUATION DESIGN ALTERNATIVES

- One group posttest only: X O (Program students)

  Example statistical analysis technique: Calculate frequencies, percentages, or proportions of students attaining desired performance levels on criterion-referenced tests or matching the scores of appropriate national or local norm groups on norm-referenced tests.

  Answers the question: Do participants meet predetermined performance levels or preselected age or grade norms?

- One group pre- and posttest: O_1 X O_2 (Program students)

  Example statistical analysis technique: Perform simple t-tests for correlated samples by comparing students' pre- and posttest scores.

  Answers the question: Do participants perform differently after the career education program than they did before they experienced it?

- Two group posttest only: Randomize X_1 O_1 (Program students)
  Randomize O_2 (Comparison students)

  Example statistical analysis techniques: Perform t-tests for independent groups, or one-way analysis of variance, or X^2 test, or Mann-Whitney U test, comparing students' posttest scores.

  Answers the question: After the career education program, do participants perform differently than do other students who did not experience the program's activities?

- Two group pre- and posttest: Randomize O_1 X_1 O_2 (Program students)
  Randomize O_3 O_4 (Comparison students)

  Example statistical analysis techniques: Perform an analysis of covariance using students' adjusted posttest scores as the comparison data or perform t-tests on their amount of growth scores.

  Answers the question: After the career education program, do participants perform differently than do other students who did not experience the program but who are known to be similar to the participants?

those data would answer. Designs more sophisticated than those displayed could be added. Campbell and Stanley (1966) have written an excellent resource outlining such alternatives.

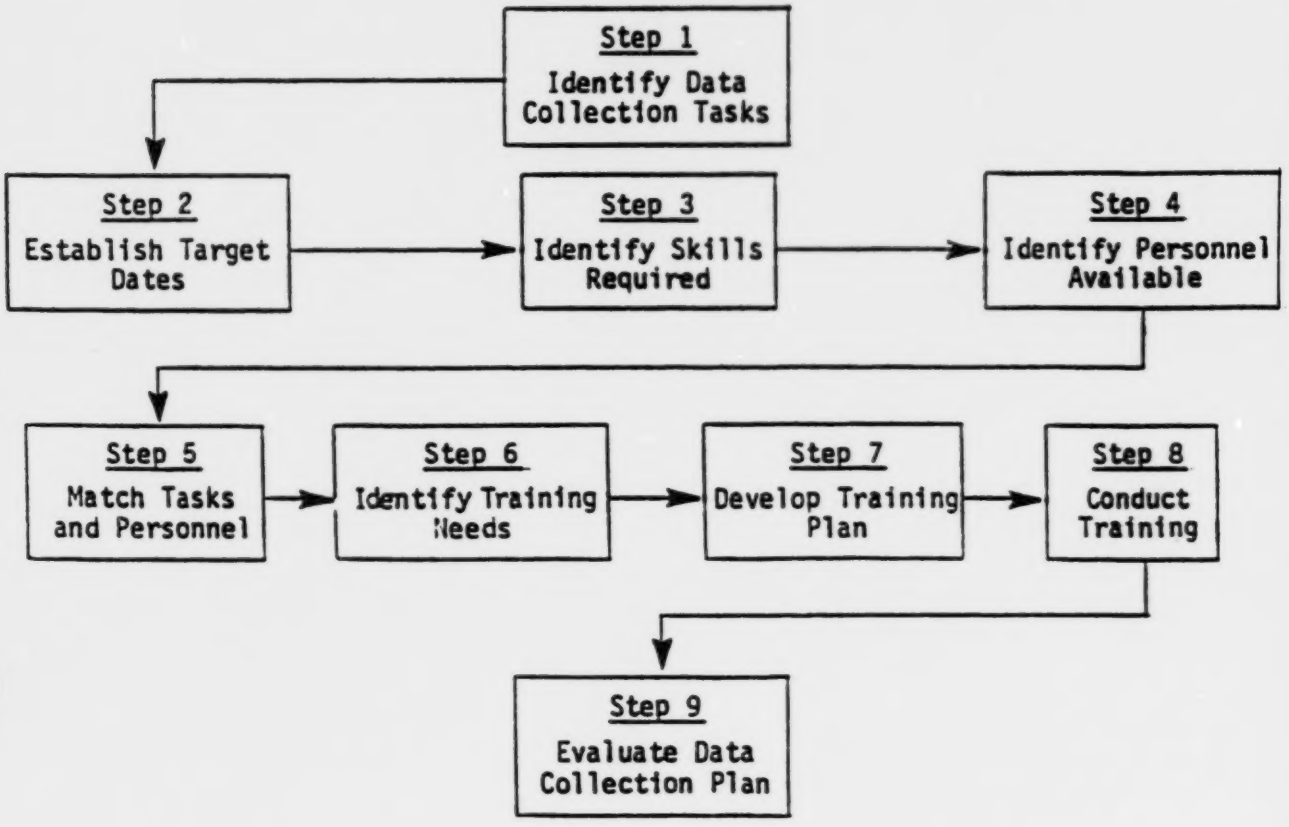
Probably, your study will have neither the schedule nor the financial resources to collect data from all possible respondents for each evaluation instrument or procedure. Therefore, by sampling from the respondent "populations," you will make your study more manageable. To insure that the findings you collect from samples of respondents *represent* the opinions or performances of the total populations (e.g., student, staff, parent, community member), your samples should be selected carefully. The following suggestions should expedite your work on Task 13, if you decide to use sampling and to detail your sampling plan:

- record your sampling procedures so they are available for anyone's review later;
- your procedures for student participants for the career education activities should permit inferences concerning the effectiveness of those activities for the sample and the total population;
- the usual sampling procedure is to select random samples from each respondent population using a table of random numbers, but there are other acceptable techniques such as using a random number generator stored in a computer, flipping a coin, shuffling a deck of cards each of which contains a candidate's name, or systematically selecting on the basis of candidates' surnames listed alphabetically;
- for each respondent group, randomly select a group of "alternates" who can be used as replacements in case of attrition from the original samples:
- carefully determine your *sampling unit* (e.g., school, class, student group) on the basis of to which population you wish to generalize your results and conclusions:
- if possible, randomly select your participants *and* randomly assign the experimental and comparison (or control) treatments to them; and
- use the rule of thumb that for populations of 5,000 or fewer persons, a size of 5 percent or at least 30 respondents is adequate (Young & Schuh, 1975).

Usually, Task 14 can be implemented best by your drafting a time-task-responsibility chart covering these major remaining data task areas for your proposed study: collecting, processing, classifying, analyzing, and reporting. Display 5 presents a valuable tool Young and Schuh (1975) produced for helping you plan your local

DISPLAY 5

STEPS IN PLANNING A DATA COLLECTION EFFORT



conditions, your project's design and schedule, and your staff's availability and skills. Task 14 also provides an opportunity for you to guarantee that the anticipated data will answer the evaluation questions you formulated in Task 6.

PHASE III: IMPLEMENTING YOUR EVALUATION DESIGN AND YOUR SAMPLING AND DATA PLANS

During the implementation activities (drawing the actual sample and administering the evaluation techniques) in Task 15, you probably will appreciate the wisdom of having developed a complete, well-organized study plan in Task 14. Unexpected problems will arise but by having that blueprint, you should be able to modify your procedures efficiently and still maintain the rigor of your evaluation design. At the same time, you will want to record ways that the implementation of your study's design differs from your original plan since such modifications could have major significance for later interpretation of your findings.

As you turn your attention to the data activities of Task 16, you will undoubtedly want to monitor the process so that data are collected as close as possible to the approved schedule. As data are gathered, your team should check them for completeness and accuracy as well as organize them for hand and/or computer processing. Then you will be ready to conduct the data analyses you selected in Task 12 and recorded in the data plan in Task 14. Probably, some of your analyses will produce simple descriptive statistics (e.g., frequencies, percentages, means, and standard deviations) while others will provide more sophisticated inferential statistics defining important relationships between different sets of raw data (e.g., estimations of the significance of obtained pretest and posttest score differences between the career education program students and the comparision students).

Because of the unreliability of student gain or growth scores (as obtained by comparing students' pretest and posttest scores), you will want to analyze and study these data only in the context of the more important posttest analyses contrasting the performance levels of program and comparison students. This caution has to be implemented because of the recognition that estimates of gains are usually only half as reliable as are the pretest and posttest scores from which they are calculated. The data summaries and displays (e.g., tables and figures) you use to present your findings should: (1) be labeled with a complete title that clearly describes the data and the respondents; (2) specify the nature of the respondent group(s) for which data were aggregated; (3) indicate the size of the group(s); and (4) describe the types of data presented.

PHASE IV:
INTERPRETING, REPORTING AND USING YOUR EVALUATION RESULTS

Hopefully, your team will discover that the Task 17 activities of reviewing your study's results: discussing possible interpretations; and debating alternate conclusions, implications, and recommendations are the most gratifying of all your work sessions. In that process, you will want to avoid trying to derive conclusions from every bit of available data. At the same time, your reports should present your team's perceptions regarding "data trends" which are not strongly substantiated (e.g., findings that *do not* attain your desired levels of statistical significance for tests performed on data that are amenable to such comparisons).

A key part of Task 17 involves making decisions about reporting your study's purposes, procedures, results, and interpretations. You might explore the desirability of organizing your reports by the set of questions you identified in Task 6 as being the ones for which your study would provide answers. Since in Task 8 you translated these questions into product and process objectives, you might choose to organize your report around those statements. You would present each objective; state where it came from and why; describe the instruments and evaluation procedures you employed in order to see if it was achieved; summarize your results as visually as possible; and present your conclusions and recommendations related to it. All data on career education side effects would be reported either by the objective to which they most clearly relate or in a separate section. One resource you will find helpful at this stage is a publication by New Educational Directions (1977). It provides a checklist for reporting the results of career education studies.

Task 18 is the one that makes the whole effort worthwhile! That assumes somebody will want to make decisions based on your study's results!! To encourage that possibility, you might want to write your reports so that they: (1) outline at least three decision alternatives for each of your study's major questions and objectives: (2) suggest ways that each alternative could be implemented: and (3) estimate costs for implementing each one. Your suggested alternatives might include ones such as the following:

- Continuing specific curriculum-based career education activities exactly as they are currently being implemented.
- Revising other activities based on the evaluation results.
- Terminating other activities because of insurmountable problems identified in the investigation.
- Developing new activities in areas identified as gaps.

- Modifying activities in order to maintain a closer compliance with state and federal government regulations.

- Attempting to replicate this study's findings to determine if results consistent with its major evidence can be substantiated or if weaknesses in its design or implementation might have confounded the results.

- Changing the resource allocations for specific career education activities in light of information regarding the achievement of process and product objectives relative to identifiable program costs.

By closely tying your recommendations to well-documented findings, you might just stimulate decision makers to settle some of the more critical decisions and to insure their implementation. If that happens, you could even find yourself willingly taking charge of the next career education evaluation study that comes your way.

REFERENCES

Fagan, B., & Horst, D. *Selecting a norm referenced test.* Mountain View, California: RMC Research Corporation, 1976.

Fullan, M., & Pomfret, A. Research on curriculum and instruction implementation. *Review of Educational Research,* 1977, *47*(1), 335-397.

Hoyt, K. B. *Perspectives on the problem of evaluation in career education: Monographs on career education.* Washington, D. C.: U. S. Government Printing Office, 1976.

Hoyt, K. B. *A primer for career education: Monographs on career education.* Washington, D. C.: U. S. Government Printing Office, Superintendent of Documents, 1977.

Instructional Objectives Exchange. *Illustrative criterion-referenced test specifications: Career education: Grades K-12.* Los Angeles, California: Author, 1976.

McLaughlin, D. H. *Career education in the public schools, 1974-75: A national survey.* Palo Alto, California: American Institutes for Research, 1976.

National Assessment of Educational Progress. *Career and occupational development.* Denver, Colorado: Education Commission of the States, 1977.

New Educational Directions. *What does career education do for kids? A synthesis of 1975-76 evaluation results.* Crawfordsville, Indiana: Author, 1976.

New Educational Directions, Inc. *Checklist for reporting results of student outcome studies in career education.* Crawfordsville, Indiana: Author, 1977.

Tallmadge, G. K. *Criterion-referenced tests.* Mountain View, California: RMC Research Corporation, 1976.

Tallmadge, G. K., & Wood, C. T. *Characteristics of eight commonly used, nationally normed tests.* Mountain View, California: RMC Research Corporation, 1976.

Texas Partners in Career Education. *Career education learning system.* Arlington, Texas: Texas Education Agency, 1976.

The Center for Vocational Education. *Career education measures: A compendium of evaluation instruments.* Columbus, Ohio: The Ohio State University, 1978.

Young, M., & Schuh, R. *Evaluation and educational decision making: A functional guide to evaluating career education.* Washington, D. C.: Development Associates, 1975.

Notes for reading an entry. The records listed in this bibliography have been selected and reproduced as written by data base developers. No further editing of the texts was done.

Microfiche copies of ERIC documents are available through FEIS. To order these microfiche documents, use the order number found in the "Availability" field of certain entries. Microfiche documents may be ordered at a cost of 60 cents per sheet. Each sheet contains up to ninety-six pages of printed copy.

Topic Overviews

TITLE: ***Career Education Infusion: A Review of Selected Curriculum Guides for the Middle School. Information Series No. 211.***

DATE: 80.

AUTHOR: Raymond, Carolyn D.

DEVELOPER: National Inst. of Education, (DHEW), Washington, D.C.

AVAILABILITY: For a microfiche copy of this document, order ED193531 from FEIS.

ANNOTATION: A study is reported which examines the concept of career-education infusion as it has been presented in selected curriculum guides, particularly those developed for the middle-school and junior-high-school levels. The report, presented in the form of questions and answers, is written primarily for curriculum developers responsible for planning and implementing career education. It attempts to define the term "infusion" and establish criteria for determining if infusion is being facilitated by the curriculum guides. A second area explored is the relationship between student outcomes in the guides and a comprehensive definition of career education. A third area examined is the concern that implementation of career education at times may not be taking the career-development stages of students into account; the report briefly examines the congruence of the outcomes and activities in the guides with appropriate theoretical career-development stages. The fourth and final part of the report focuses on whether or not the major instructional components for evaluating the effectiveness of an outcome or activity are included in the guides. (CT)

FORMAT: Research Report, 48p.

TITLE: ***Review and Synthesis of Research and Development on Career Education Infusion in the Secondary Classroom 1976-1981.***

DATE: 85.

AUTHOR: Doty, Charles R.; Stanley, Veronica E.

AVAILABILITY: For a microfiche copy of this document, order ED260255 from FEIS.

ANNOTATION: Curriculum planners and career educators are advised to review the literature on infusion with this question in mind: "Does the integration of career education into the regular secondary classroom make a difference in student learning of subject matter and career information?" The philosophy and objectives of career-education infusion were described in four monographs. Hoyt (1976), Preli (1978), and Ristau (1976) stressed the importance of using career education in the classroom to improve students' achievement and motivation. They also found that inservice is necessary to help teachers integrate career education into regular classroom instruction. Suhor (1979) theorized that methods of instruction depend on the district's approach; a districtwide program was instrumental in the development of successful programs. Recent legislation has provided financial support to local school districts for developing career-education programs. Congressional hearings supporting the Elementary and Secondary Education Act of 1977 indicated that infusion of career education into the regular classroom resulted in growth in decision-making skills and school-work relationships. Research reports consisted of a variety of methods including surveys, pre- and posttests, and comparative studies between experimental and control groups using psychometric measures. Three researchers (Bhaerman, 1979; Herr, 1977; and Wilson, 1977) concluded that students exposed to career-education infusion had better achievement records than students with no infusion programs. Others, however, noted problems. The following areas need further research: program evaluation, teacher training, and instruction. (KC)

FORMAT: Literature Review, 21p.

Professional Preparation

TITLE: ***Career Information in the Classroom. Workshop Guide for Infusing the* Occupational Outlook Handbook.**

DATE: 86.

AUTHOR: Boyle, Karen Kimmel; Whelden, Ernest.

DEVELOPER: National Occupational Information Coordinating Committee (DOL/ETA), Washington, D.C.; Office of Career Education (ED), Washington, D.C.

AVAILABILITY: For a microfiche copy of this document, order ED 263383 from FEIS.

ANNOTATION: This competency-based training package instructs teachers of grades K-12 on how to infuse the *Occupational Outlook Handbook* (OOH) and concepts contained within it into their existing curricula. The package includes information on how to plan a workshop, helpful hints and techniques for leading groups, six learning modules, and pre- and postworkshop self-assessment instruments for workshop participants. Addressed in the individual modules are the following topics: basic principles of career development, methods of developing infused activities, the OOH and occupational information, and strategies for helping students understand the labor market and the economy and explore careers. Each module contains some or all of the following: a statement of purpose, a list of competencies addressed in the module, abstracts of learning activities, lessons that include a cross-referenced instructor's outline and notes, suggested evaluation instruments and techniques, sample handouts, and transparency masters. (MN)

FORMAT: Guide, 450p.

TITLE: ***Infuse Curriculum-Based Guidance. Module CG C-4 of Category C—Implementing. Competency-Based Career Guidance Modules.***

DATE: 85.

AUTHOR: Mahrt, James; Phillips, Linda.

DEVELOPER: Office of Vocational and Adult Education, (ED), Washington, D.C.

AVAILABILITY: For a micofiche copy of this document, order ED257990 from FEIS.

ANNOTATION: This module, one in a series of competency-based guidance-program training packages, focuses on specific professional and paraprofessional competencies of guidance personnel. Modules in Category C suggest how to conduct, accomplish, or carry out selected career-guidance program activities. The purpose of this module is to help career-guidance personnel gain additional skills needed to ensure that career-guidance concepts are integrated into the curriculum by others and/or personally incorporated into their own instruction. It begins with a section that presents the module goal and a listing of the five competency statements. An introduction gives an overview of the purpose and content of the module. The next section presents a reading (cognitive information) on each one of the competencies. Learning experiences related to the needed competencies follow. One learning experience exists for each competency (or cluster of competencies), and each may stand on own. Each learning experience consists of an individual activity, individual feedback, and group activity. An evaluation section contains a

Pre- and Post-Participant Assessment Questionnaire and a Trainer's Assessment Questionnaire. A final section lists all references and provides annotations of related major resources. (YLB)

FORMAT: Instructional Materials, 88p

TITLE: ***School-Community Collaboration Project. Final Report.***

DATE: 78

DEVELOPER: Office of Career Education, (DHEW/OE), Washington, D.C.

AVAILABILITY: For a microfiche copy of this document, order ED 183872 from FEIS.

ANNOTATION: The School-Community Collaboration Project was conducted to train personnel to infuse career education elements into the ongoing educational process and to increase the involvement of parents and the employment community in the process. Five Massachusetts school systems participated in the project, including fifty-four educational personnel and sixteen community representatives. The participants were involved in six days of workshop activities designed to alter their attitudes about community collaboration in career education and to determine their needs in carrying out this collaboration. An independent evaluator conducted both a summative and a formative evaluation based on pre- and posttest data and observational data collected during and following the group training sessions. Test data supported that there were positive changes in the attitudes of school personnel toward community collaboration in the implementation of career-education activities within their schools. Test data did not indicate that school personnel had increased their knowledge of models/techniques for greater community collaboration; however, observational data and reports of post-training activities indicated an increase. Observational data collected during the training sessions and reports of activities undertaken in four of the school districts after the initial training clearly indicated a measurable increase in the quantity and quality of career-education activities engaged in by educational personnel. (BM)

FORMAT: Project Description, 59p

TITLE: ***South Burlington Career Education Project Training Modules. School, Parent, Student, Community.***

DATE: 80

DEVELOPER: Office of Career Education, (DHEW/OE), Washington, D.C.

AVAILABILITY: For a microfiche copy of this document, order ED190794 from FEIS.

ANNOTATION: Designed to facilitate the emulation of exemplary components of the South Burlington School District (Vermont) program to develop a teacher training model for the implementation of career education, these six modules include guidelines for inservice programs and workshops, handouts, transparencies, and reference materials. An Introduction to Career Education introduces the concept to educators and community persons by establishing the need, defining terms, and clarifying student outcomes. Grade Level or Content Area Activity Day acquaints teachers with career-education concepts and methods to (1) integrate them into existing curricula, (2) examine materials and prepare activities and materials for classroom use, and (3) sequentially organize curricula and career education goals within a school and/or school district. The Community Career Education Extension Service: Parent Coffees explains how to organize small meetings in neighborhood homes to include parents in career-education programs. College Introduction to Career Education is for students, potential teachers, and other interested community members. Interview Workshop is a core workshop on techniques for interviewing local business personnel and their relationship to curriculum. A Design for Career Education, South Burlington, Vermont, is Module 6. To ensure a comprehensive continuum for career-education activities, it includes an implementation strategy for K-12 and the division of responsibilities for administrators, department chairpersons, guidance personnel, and teachers. (YLB)

FORMAT: Project Description; Guide; 114p.

TITLE: ***South Burlington Vermont Career Education Project. Final Financial Status Report and Project Performance Report; Final Evaluation Report, Final Report, January 30, 1979 through June 30, 1979.***

DATE: 79

DEVELOPER: Office of Career Education, (DHEW/OE), Washington, D.C.

AVAILABILITY: For a microfiche copy of this document, order ED190793 from FEIS.

ANNOTATION: This document contains the (1) final status report and project-performance report and (2) final-evaluation report of a career-education project to develop a demonstration model to train school personnel to infuse career education into the curriculum. The first report outlines objectives and major activities involving parents, higher education, and the community. Activities described include workshops, the introduction of core teachers to career education, core teachers acting as models and resources to assist others to infuse career education, home meetings to help parents become active career-education facilitators, project extension as a model for preservice training in area colleges, meetings between staff and community representatives to discuss career experiences, and the development of a five-year career-education plan for the South Burlington School District (Vermont). The evaluation report is organized according to project objectives with a comparison of pre- and posttest results from interviews, instruments, and observations of core teachers and students and control groups. These results are reported: teacher attitudes and knowledge about career education significantly changed in a positive direction; a wide range of community resources were identified to facilitate career-education implementation; career-education seminars held in colleges caused significant change in the knowledge of college students; and high school students demonstrated exceptional scores in the Career Maturity Inventory. (YLB)

FORMAT: Project Description; Evaluate Report; 45p.

Planning for Infusion

TITLE: ***Career Education Implementation Mode for Administrators. Bulletin 1980, No. 37.***

DATE: 80

DEVELOPER: Office of Education, (DHEW), Washington, D.C.

AVAILABILITY: For a microfiche copy of this document, order ED219560 from FEIS.

ANNOTATION: Developed for Alabama educational administrators, this implementation mode is intended to provide a stimulus for assisting with the infusion of career-education activities and goals into classroom subject areas. It begins with a matrix showing the goals of career education. An explanation follows of the

seven goals (self-awareness, educational awareness, career awareness, economic awareness, decision making, skills and competencies, and attitudes and appreciations), objectives, and expected outcomes. Listed are twenty-nine activities that the administrator must do to develop a local career-education program that meets the requirements of state and federal guidelines. A form for career-education administrator evaluation is appended. (YLB).

FORMAT: Teacher Guide, 12p.

TITLE: ***Career Education Implementation Mode for Classroom Teachers. Bulletin 1980, No. 35.***

DATE: 80.

DEVELOPER: Office of Education, (DHEW), Washington, D.C.

AVAILABILITY: For a microfiche copy of this document, order ED 219558 from FEIS.

ANNOTATION: Developed for classroom teachers in Alabama, this implementation mode is intended to provide a stimulus for infusing career-education activities and goals into classroom subject areas. It begins with a matrix showing the goals of career education. An explanation follows of the seven goals (self-awareness, educational awareness, career awareness, economic awareness, decision making, skills and competencies, and attitudes and appreciations), objectives, and expected outcomes. Section 2 discusses teacher preparation and lists six steps recommended for teachers to use in implementing career education in classroom instruction. Section 3 briefly describes recommended methods of implementation. Guidelines for career-education program evaluation are provided in section 4 in the form of checklists relating to the goals of career education. The final section lists 91 ideas for application of the career-education concepts. (YLB).

FORMAT: Teacher Guide, 24p.

TITLE: ***Career Education Implementation Mode for Counselors. Bulletin 1980, No. 36.***

DATE: 80.

DEVELOPER: Office of Education, (DHEW), Washington, D.C.

AVAILABILITY: For a microfiche copy of this document, order ED219559 from FEIS.

ANNOTATION: Developed for school counselors in Alabama, this implementation mode is intended to provide a stimulus for infusing career-education activities and goals into the total curriculum. It begins with a matrix showing the goals of career-education. An explanation follows of the seven goals (self-awareness, educational awareness, career awareness, economic awareness, decision making, skills and competencies, and attitudes and appreciations), objectives, and expected outcomes. This information is then presented to provide counselors with guidelines, directions, ideas, and helpful suggestions for use in implementing career guidance: career goal, counseling objectives, counselor's responsibilities, career-guidance activities to assist teachers, 91 ideas for application of career-education concepts, career-guidance activities to assist students, career-guidance activities to assist the school, and a list of helpful materials for use in a career lab. A form for career-education counselor evaluation is appended. (YLB).

FORMAT: Teacher Guide, 23p.

TITLE: ***Career Education Implementation Mode for the Community. Bulletin 1980, No. 39.***

DATE: 80.

DEVELOPER: Office of Education, (DHEW), Washington, D.C.

AVAILABILITY: For a microfiche copy of this document, order ED219562 from FEIS.

ANNOTATION: Developed for members of the community, this implementation mode is intended to be a stimulus to assist educators with the infusion of career-education activities and goals into classroom subject areas. Uses for the booklet are suggested. It begins with a matrix showing the goals of career education. An explanation follows of the seven goals (self-awareness, educational awareness, career awareness, economic awareness, decision making, skills and competencies, and attitudes and appreciations), objectives, and expected outcomes. A discussion and checklist regarding the involvement of the business-labor-industry community in career education are provided. The next section focuses on involving the home and family structure, and contains a guide with practical career-related activities for parents to use with their children. The activities are grouped by the seven goals of career education and indicate suggested age/grade levels. A reference list is also provided. The booklet ends with a checklist for the home and family to evaluate involvement in a child's career development. (YLB).

FORMAT: Teacher Guide, 34p.

TITLE: ***Career Education Infused into the Social Studies Curriculum.***

DATE: 83.

AUTHOR: Hudson, Patricia; Griggs, Shirley A.

AVAILABILITY: For a microfiche copy of this document, order ED271625 from FEIS.

ANNOTATION: Social-studies teachers can help students develop self- and career awareness by infusing career education into the social-studies curriculum. The infusion method of career education is preferred since it can make the content of lessons more relevant for students. In addition, infusion of career education is particularly appropriate in social studies because, more than any other discipline, social studies deals with the movement of society throughout the history of the world and thus with finding one's place in the world of tomorrow. A volunteer committee of teachers and administrators could develop a career-education program for infusion into a social-studies program. Such a program should include the following objectives: develop heightened self-awareness and self-acceptance, improve decision-making resources and abilities, develop positive attitudes toward work and personal values, clarify the relationship between career and personal goals, and develop character traits necessary for success in a chosen career. The career activities incorporated into the curriculum should include basic job-search and money-management skills, consideration of the responsibilities accompanying having and raising a family, and the issue of sex bias. A 3-year career-education infusion project that incorporated many of these ideas was implemented in the Foxborough Public Schools in Massachusetts. (MN).

FORMAT: Teacher Guide, 12p.

TITLE: ***Infusing Career Education into Basic Skills Instruction at the Elementary School Level: Strategies and Ideas for Teachers. Media Packages for Teacher Trainers: Primary Level. Final Narrative Report.***

DATE: 80.

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AUTHOR: Aslanian, Carol B.

DEVELOPER: Office of Career Education, (DHEW/OE), Washington, D.C.

AVAILABILITY: For a microfiche copy of this document, order ED195744 from FEIS.

ANNOTATION: Directed to teachers and teacher trainers who want to infuse career-related principles into their existing basic-skills curriculum (language arts and mathematics), this report presents strategies and ideas for both the primary and intermediate levels within the elementary school. The first section addresses the need for materials to help practitioners plan instructional activities in the basic-skills area through infusion of career-education information. In the second section these six components necessary in planning such instructional activities are described: (1) curriculum concept, (2) career-education concept, (3) student objectives, (4) procedures, (5) resources, and (6) evaluation. The third section provides illustrations of sample lessons from grades 1–6 for both language arts and mathematics. Each lesson is presented in a format for planning career-infused activities which contains the six necessary components. The fourth section presents additional ideas for instructional activities in language arts and mathematics. A brief discussion on using community resources concludes the report. (YLB)

FORMAT: Teacher Guide, Project Description; 27p.

TITLE: ***Leader's Guide to Developing Career Education Programs.***

DATE: 82.

AVAILABILITY: For a microfiche copy of this document, order ED229651 from FEIS.

ANNOTATION: This guide to developing career-education programs in Indiana elementary and secondary schools tells how to move career education from an idea to a permanent part of the school curriculum. The guide was written specifically for persons who have the task of leading their schools' career-education programs. The guide's three chapters correspond to three phases of program development: (1) initiation for spreading the idea of career education throughout the schools and community and making preparations for planning an organized program; (2) planning for designing the school's student program and developing a plan for implementing the program; and (3) implementation for performing the "behind the classroom scenes" work of implementing the school plan. Phases 1 and 2 consist of 19 steps in sequential order. The third chapter lists pointers and resources for seven program-development and support functions whose sequence depends on the school's plan. References on career education are suggested. (KC)

FORMAT: Guide, 74p.

TITLE: ***Project Lead the Way (PL 94-482). Career Guidance Summer Workshop.***

DATE: 83.

AUTHOR: Kartan, Frank.

AVAILABILITY: For a microfiche copy of this document, order ED241692 from FEIS.

ANNOTATION: A workshop was conducted at North Arlington High School in the summer of 1983 to coordinate the school's expanded career-education program, Project Lead the Way, which encompasses grades 8 through 11. During the workshop, teachers and counselors reviewed student evaluations of the past year's program; planned for the following year's program; and set up dates, schedules, materials, field trips, and speakers for the 1983–84 school year. This document contains descriptions of each of the components of Project Lead the Way, along with instructions for setting up workshops, and timetables and dates for the various activities to be scheduled for the programs. The programs are intended to be infused into English, mathematics, and other subject areas of the school's curriculum. (KC)

FORMAT: Project Description, 80p.

Implementing Infusion

TITLE: ***AVENUES. A Career Education Series.***

DATE: 84.

AVAILABILITY: For a microfiche copy of this document, order ED255664 from FEIS.

ANNOTATION: This guide is intended for teachers in Hawaii to use in conjunction with the videotape program AVENUES. AVENUES is a series designed to help students understand and appreciate the practical application of skills and knowledge gained through the regular curriculum as they enter the world of work and to motivate students to begin to plan career directions. The program consists of 10 sections that focus on these areas: the future, social studies, science, mathematics, language arts, art, music, physical education, disabled students, and gifted and talented students. Each section of the guide explains the purpose of the videotape appropriate to it, summarizes the videotape program, provides a glossary, gives suggestions for discussion before and after the videotape presentation, provides activity sheets with answers, suggests possible careers linked to the subject matter of the program, and lists community resources. (KC)

FORMAT: Teacher Guide, 95p.

TITLE: ***Career Education for Elementary Grades.***

DATE: 84.

AUTHOR: Dianna, Michael A.

AVAILABILITY: For a microfiche copy of this document, order ED248404 from FEIS.

ANNOTATION: Information and activities are provided to help elementary school teachers develop a career-education "environment" for children. Ten basic premises of career education are outlined, and the key ideas and terms that emerge from the premises are defined. The eight goals of career education are set forth to provide the teacher with a base from which to develop a personal plan to infuse career education into the existing curriculum. Suggestions are then made for integrating existing curricula with career-education ideas. A sample of subject-related activities is included for these subjects: social studies, guidance, language arts/reading, science, physical education, and mathematics. Job-related activities follow for these occupations: FBI agent, printer, musician, construction worker, costume designer, telephone installer, firefighter, librarian, police officer, and classroom jobs. Essential resources and the procedure are detailed for each activity. Adaptations are suggested for individual classrooms. A listing of some additional career-education resources is appended. (YLB)

FORMAT: Teacher Guide, 33p.

TITLE: ***Career Education Resource Guide.* Vol. I: K–6; Vol. II: 7–9; Vol. III: 10–12.**

DATE: 81.

AUTHOR: Treacy, Thomas D., Ed.

DEVELOPER: Teacher Corps., Department of Education, Washington, D.C.

AVAILABILITY: For a microfiche copy of this document, order ED211691 from FEIS.

ANNOTATION: This three-volume career-education resource guide consists of hundreds of teacher-developed and -tested learning activities for use in grades K–6, 7–9, and 10–12. Included in this volume are activities that can be incorporated into existing curricula in the following subject areas: art, biology, business, chemistry, English, foreign languages, counseling, health, physical education, home economics, industrial arts, mathematics, music, science, social studies, and special education. The activities are presented in a consistent format, including the activity subject area, grade level, and title; behavioral objectives; steps for completing the activity; and resources pertinent to the activity. Designed to be fused into existing classroom curricula, these activities address such career themes as self-awareness, career awareness, educational awareness, economic awareness, decision making, beginning competency, employability skills, and appreciation and attitudes. Appendixes included at the end of volume III contain listings of behavioral objectives for grades K–12, organized according to the above-mentioned eight career-education themes; a career-education resource source listing; and annotated bibliographies, including materials on school-to-work transitions, multicultural children, exceptional children, the disadvantaged, and inservice training. (MN)

FORMAT: Teacher Guide; 310–352p.

TITLE: ***A Career Education Sampler: Teaching Ideas for Grades 7–9.***

DATE: 81.

AUTHOR: Douma, Elaine, Comp.

DEVELOPER: Division of Vocational Education, New Jersey State Department of Education, Trenton.

AVAILABILITY: For a microfiche copy of this document, order ED206890 from FEIS.

ANNOTATION: This sampler is the product of the Career/Vocational Development Student Profile Project conducted in New Jersey in 1979-80. The purpose of the project was to field-test the Career/Vocational Development K–14 Goal Matrix (see note) to see whether the goals, objectives, and indicators are realistic and appropriate for the age/grade levels they represent, and to determine whether a teacher could teach to any given indicator as an integral part of the regular classroom instruction. The sampler is made up of lessons or modules suggested and developed by more than 300 teachers and counselors; each can be used as is or adapted to a particular classroom situation. The ideas are meant to aid the teacher in infusing or integrating career-related concepts into the academic, prevocational, and vocational settings in order to meet the career-development needs of students. The activities in this publication are intended for grades 7–9, and include games, puzzles, poetry, pages to be reproduced and handed out, and group and individual project ideas. Each lesson is categorized by subject-area competency, skills, and the career-development objective of the 10 career-development goals to which it relates. (Career-development goals, as stated in the matrix, cover the following topics: self-awareness, interpersonal skills, decision making, work habits and attitudes, communication and computation skills, career implications of school subject matter, socio-technological-economic-political understanding, career information, marketable skills and adaptability, and leisure preferences and personal responsibilities.) For each lesson or activity, content, methods, resources, and evaluation items are suggested. (KC)

FORMAT: Teacher Guide; 659p.

TITLE: ***Career Skills through English. Grade 10.***

DATE: 83.

DEVELOPER: Maryland State Department of Education, Baltimore.

AVAILABILITY: For a microfiche copy of this document, order ED237699 from FEIS.

ANNOTATION: This curriculum guide contains materials for use in helping tenth-grade students acquire career skills in English courses. Addressed in the individual sections of the guide are the following topics: self-awareness, application forms, letters of application, resume writing, the interview process, and sources of career information. Each unit includes some or all of the following: an instructional objective, one or more competency statements, suggested student activities, follow-up activities, checklists, sample forms, and information sheets. A list of tenth-grade-level language arts and career-education objectives and competencies is also included. (MN)

FORMAT: Teacher Guide; 111p.

TITLE: ***Focusing Industrial Arts on Career Education. A Handbook for Industrial Arts Teachers and Students.***

DATE: 79.

AUTHOR: DiPaul, H. Bert.

AVAILABILITY: For a microfiche copy of this document, order ED198286 from FEIS.

ANNOTATION: This manual is intended to aid high school industrial-arts teachers to infuse career exploration and career education into the industrial-arts curriculum. It relates the specific skills learned in various industrial-art classes to various occupations, providing a means for students to "try on" occupations via projects and self-assessment. Following instructions to the teacher and to the student, the handbook is divided into six sections, with a total of nineteen units. Section 1 introduces the manual and presents occupations which can be sampled in the school shop (printing, drafting, metal working, quality control, and woodworking) in addition to instructions for sampling assembly work and motion and time-study analysis. Section 2 leads the student to knowledge of self: his or her interests, aptitudes, and personality characteristics, and shows him or her how to relate these traits to careers. Section 3 provides knowledge about occupations, explaining how to study and analyze occupations, how occupations are classified, how to match personal characteristics to career requirements, and what occupations will need workers. In section 4 technology is discussed from both a historical and a future perspective, including early manufacturing processes, mass production, quality control, automation, and innovations. Section 5 explains how to prepare a resume and how to get a job and keep it. The last section contains references and a list of career-exploration films. (KC)

FORMAT: Instructional Material; Teacher Guide; 140p.

TITLE: ***Futures Week. Middle School Program. Instructor's Guidebook.***

DATE: 84.

AUTHOR: Smith, Armenia.

DEVELOPER: Department of Education, Washington, D.C.; Texas Education Agency, Austin.

AVAILABILITY: For a microfiche copy of this document, order ED256946 from FEIS.

ANNOTATION: This instructor's guide outlines a model program designed to provide middle school students with an op-

portunity to participate in exploratory activities regarding the world of work and to understand the relationships between education and work. Described in the first part of the manual are the following futures week activities: a job-interviewing skit, a futures career day; a business, industry, or government field trip; and a parent program. The second half of the guide consists of classroom materials for use in helping 9th- and 10th-grade students investigate careers while developing writing, social studies, reading, and math skills. Included in this section of the guide are a series of lesson plans, suggested learning activities, student exercises and handouts, information and guide sheets, and answers to selected activities. (MN)

FORMAT: Teacher Guide, 106p.

TITLE: ***Introduction to Vocations: Building Occupational Exploration at the Middle School Level.***

DATE: 81.

DEVELOPER: Division of Vocational Education and Career Preparation, New Jersey State Department of Education, Trenton.

AVAILABILITY: For a microfiche copy of this document, order ED282058 from FEIS.

ANNOTATION: This handbook uses the 15 occupational clusters for infusing career exploration into an existing school curriculum for sixth-, seventh-, and eighth-grade students. Each grade's program explores designated occupational clusters through the basic curriculum of language arts, mathematics, science, social studies, art, music, and physical education. A cluster calendar provides teachers with a list of priority subject areas directly corresponding to assigned clusters at each grade level. The sixth-grade program explores these career-cluster areas: transportation, manufacturing, consumer and homemaking, public service, hospitality and recreation, and environment. The seventh-grade program introduces these clusters: personal services, marketing and distribution, health, business and office, agribusiness and natural resources, and communications. The eighth-grade program centers around the clusters of marine science, construction, and fine arts and humanities. Career objectives are provided for each grade level. Each cluster contains a list of occupations in the cluster, a general introductory lesson, more specific job-centered lessons, and a list of resources. Each lesson lists the cluster, content area, title, objectives, activities, evaluation suggestions, and resources. An additional section provides a special education program organized similarly to the grade-level programs. The lessons explore all 15 career clusters. An annotated bibliography is appended. (YLB)

FORMAT: Teacher Guide, 222p.

TITLE: ***Introduction to Vocations: Career Exploration Curriculum Guides for Ninth Grade Students.***

DATE: 82.

AUTHOR: Morgan, Bruce, And Others.

DEVELOPER: Division of Vocational Education and Career Preparation, New Jersey State Department of Education, Trenton.

AVAILABILITY: For a microfiche copy of this document, order ED282057 from FEIS.

ANNOTATION: These career-exploration curriculum guides are designed to provide infusion activities for entry-level academic courses at the high school level. Guides are provided for the areas of art, English, foreign language, mathematics, biological science, physical science, and social studies. Each guide is related to an occupational cluster and specific job family. It provides the teacher with the name of the course(s), name of unit, time allowed, major idea, objectives, content, teacher and student activities (including speaker suggestions and field trip recommendations), evaluation techniques, and materials and resources. An index indicates the page numbers for specific job titles. Representative job titles are agronomist, archaeologist, auto mechanic, cartoonist, chef, commercial artist, computer operator, dental hygienist, dietitian, editor, electrician, fish and wildlife manager, flight attendant, graphic artist, illustrator, interior design, interpreter, law enforcer, librarian, meteorologist, nutritionist, optometrist, photographer, piano tuner, psychologist, travel agent, and writer. (YLB)

FORMAT: Teacher Guide, 212p.

TITLE: ***Project Linkage. Career and Vocational Activities.***

DATE: 82.

AUTHOR: Dilger, Joan W., Comp.; Grimes, Francis E., Comp.

DEVELOPER: Division of Vocational Education and Career Preparation, New Jersey State Department of Education, Trenton.

AVAILABILITY: For a microfiche copy of this document, order ED282041 from FEIS.

ANNOTATION: This manual is intended to enable teachers to infuse career/vocational objectives in specific content areas and reinforce or make more practical many of the basic skills and knowledge they teach. It uses the K-14 Matrix Career/Vocational Development Profile goals and objectives and interfaces these objectives with specific subject areas, which, in turn, are correlated with other objectives from various segments of the Middletown Township Public Schools, Middletown, New Jersey, curriculum. The manual is divided into 10 sections or goal areas dealing with self-awareness, interpersonal skills, decision making, work attitudes, communication/computation skills, career implications of subjects, socio/technical/economic/political understanding, career information, marketable skills, and leisure preferences. Each objective within a section of goal area is headed by a logo denoting the content area that it primarily addresses. Grade levels are given for specific lessons, the lesson itself is provided, related subjects are mentioned, and correlations with Middletown's curricula are noted. The material is indexed in two ways: by subject, followed by goal and objectives, and by titles of lessons in alphabetical order. It is illustrated with black and white drawings. (YLB)

FORMAT: Teacher Guide, 204p.

TITLE: ***Road. . Maps. Curriculum Activities Guide. Infused Career Education Plans in Language Arts, Social Studies, Math. Migrant Students Grades K-6 and 7-12.***

DATE: 86.

DEVELOPER: Migrant Education Programs, Office of Elementary and Secondary Education (ED), Washington, D.C.

AVAILABILITY: For a microfiche copy of this document, order ED270647 from FEIS.

ANNOTATION: These two curriculum-activities guides present a series of instructional plans for practicing teachers who desire to infuse career education into curricular areas, in grades K-6 and 7-12. Introductory materials discuss the guides' purpose and instructional thrust of Project MECCA (Migrant Education Counseling and Career Awareness). They also provide teachers' materials such as hints for the use of activities, suggestions for field trips, information on and forms for shadowing, and information on group-processing tools, such as brainstorming, fishbowl technique, stop action, and role playing. The activity plans are orga-

nized by grade levels into language arts, social studies, and mathematics or science. Within these sections are placed activities at differing career- or occupational-knowledge levels. These activities are to be considered as examples, and teachers are encouraged to use them as templates for additional teacher-made activities. Each header sheet for an activity plan specifies title; suggested grade level; infusion area; awareness, exploration, and preparation level; goal and objectives for the lesson; needed materials; and presentation and evaluation suggestions. A blank section on the right side of the page is designed for teacher comments or notes on adaptation. Some activity plans have accompanying, reproducible worksheets/activity sheets. (YLB)

FORMAT: Teacher Guide, 376p., 442p.

TITLE: ***Secondary Social Studies Curriculum, Activities, and Materials.***

DATE: 84.

AUTHOR: Barth, James L.

AVAILABILITY: For a microfiche copy of this document, order ED255413 from FEIS.

ANNOTATION: Tested in secondary schools and college classrooms, these social-studies activities illustrate an integrated social-studies curriculum as advocated by "The Social Studies Curriculum Guidelines" of the National Council for the Social Studies. Four major chapters deal with (1) civics and U.S. government, (2) global and international issues, world history, and geography, (3) U.S. history, and (4) senior problems, values and issues, futures, and careers. Information provided for each of these four major areas of the curriculum includes topics taught and national trends; description of a typical course; and learning activities categorized by gaining knowledge, processing, valuing, and participating. Also provided for each chapter is an interest form asking teachers to identify two activities and briefly describe why they are of interest. Activities are varied and include classroom discussions; student research; analyses of political cartoons, newspapers and magazine articles, and political speeches; mock political conventions; oral reports; writing assignments; and simulations. (RM)

FORMAT: Teacher Guide, 334p.

TITLE: ***Teaching Units Infusing Career Education, 7-12. Part I.***

DATE: 80.

DEVELOPER: Arkansas State Department of Education, Little Rock.

AVAILABILITY: For a microfiche copy of this document, order ED190854 from FEIS.

ANNOTATION: This guide book contains teaching units for infusing career education into grades 7 through 12. Teaching units are included for topics in the following subject areas: English, foreign languages, civics, American history, science, special education, occupational home economics, and art. Each unit follows a typical format that includes the following parts: subject, topic, goal, student objective, activities, resources, student evaluation, and student handouts, where appropriate. (LRA)

FORMAT: Teacher Guide, 130p.

Evaluating Infusion

TITLE: **"An Evaluation Model for Exemplary Projects."**

AUTHOR: Post, John O., Jr.

JOURNAL: *Journal of Research and Development in Education*; v12 n3 p15-20 Spr 1979.

ANNOTATION: The problem dealt with here is that of developing evaluation procedures that will determine, through objective evidence, the merit of a demonstration project that uses an infusion approach to career education in an ongoing school system. The design of this process has emerged from the Occupational Competence Access Project. (Author)

TITLE: **"A Model for Evaluating Career Education Curriculum Infusion."**

AUTHOR: Jones, G. Brian.

JOURNAL: *Journal of Career Education*; v5 n4 p262-76 Jun 1979.

ANNOTATION: Presents an evaluation model appropriate for evaluating curriculum-based career-education programs, with step-by-step instructions for use. Eighteen tasks for evaluating the implementation of a career-education curriculum are noted in four model phases: writing the evaluation problem, developing evaluation design, implementing evaluation plans, and using evaluation results. (MF)

Project Descriptions

TITLE: ***Developing Career Education Infusion Programs after Job-Shadowing.***

DATE: 86.

AUTHOR: Thompson, Cecelia; Thompson, Dale.

AVAILABILITY: For a microfiche copy of this document, order ED277832 from FEIS.

ANNOTATION: The Educators-in-Industry project described in this document is sponsored by the General Electric Foundation to offer experience in the business and industrial world to educators. In Hawaii, where General Electric has no factory facilities, other businesses provide job-shadowing sites for administrators, counselors, and K-12 teachers. Over 100 educators have participated in summer workshops that have been offered for the past four years. Participants take part in a three-day on-site visit and then return to the workshop classroom to share their experiences. Educators develop individualized career-education plans for their learners and infuse career education into their curriculum. Following the two-page description of the project are examples of career-education infusion projects currently in progress in K-12 classes in Hawaii schools as a result of the program. Examples are provided of the infusion of career education into (1) the kindergarten and elementary levels in the areas of oral communication and writing skills, social studies, creating and cooperating, responsibility, career awareness/self-concept, ecology, and the visitor industry; (2) special education; (3) counseling; and (4) vocational education in the areas of business education, vocational agriculture, and home economics. (YLB)

FORMAT: Project Description, 12p.

TITLE: ***A Massachusetts Guide: Promising Practices in Career Education.***

DATE: 81.

AUTHOR: Thayer, May M., Ed.; Chase, Elizabeth C. R., Ed.

DEVELOPER: Division of Occupational Education, Massachusetts State Department of Education, Boston.

AVAILABILITY: For a microfiche copy of this document, order ED213951 from FEIS.

ANNOTATION: This guide provides descriptions of 33 promising practices in career education in Massachusetts, which represent a cross-section of geographical lo-

cations, student populations, and program components. It is designed for use by school administrators, guidance personnel, teachers, and community members who are looking for suggestions on how to implement, revise, or augment career-education programs in their schools. The programs described provide for curriculum infusion, staff development, community collaboration, career guidance, resource centers, and services to special populations. The guide is divided into four sections including an introduction. Section 2 covers the specific program descriptions which are subdivided by these grade levels: comprehensive (K–12), elementary, middle-junior high, and high school, and combined junior-senior high. Each description contains this information: objectives, program emphasis, description of activities, planning procedures, staffing, training, advice and suggestions from project directors, materials (when available), and contact person. Section 3, on planning and implementing career-education programs, is a brief summary of suggestions and advice solicited from program directors. Part 4, the geographical index, is a guide to locating programs within specific geographical areas. (YLB)

FORMAT: Guide, Project Description; 94p.

TITLE: **"Relevance: The Fourth 'R'."**

AUTHOR: Sedlik, Ruth.

JOURNAL: *VocEd*; v55 n2 p27–29 Feb 1980.

ANNOTATION: Describes a program in the Dade County (Florida) Public School System which developed career-related courses of study in academic subjects, namely mathematics and language arts. (Editor).

TITLE: **"Room to Grow: Educating for a Total Life Experience."**

AUTHOR: Woal, S. Theodore.

JOURNAL: *Journal of Career Education*; v6 n3 p217–24 Mar 1980.

ANNOTATION: A career-education program is described which infuses the elementary-level curriculum with self- and career-awareness concepts. Teacher guides and student workbooks were developed and later followed by career-awareness booklets. Program elements include family attitudes and values, self-concept, role models, pupil-created activities, and community involvement. (CT)

FEIS Bibliographies

ADMINISTRATION
Business/Industry/Education Linkages (1988); AD425BK88
Training Delivery Systems for Adult Learners (1988); AD427BK88
Workforce 2000 (1988); AD426BK88

AGRIBUSINESS AND NATURAL RESOURCES EDUCATION
Crop Production (1986); AG382BK86
Fundamentals of Agribusiness and Natural Resources Occupations (1984); AG362BK84
Livestock Production (1985); AG381BK85
Microcomputer Programs for Agribusiness and Natural Resources Education (1988); AG403BK88
Ornamental Horticulture (1986); AG397BK86

BUSINESS EDUCATION
Basic Business Management (1986); BE123BK86
Microcomputer Programs for Business Education Occupations (1988); BE130BK88
Word Processing Specialization for Business Education Programs (1985); BE116BK85

CAREER EDUCATION
Assessment Instruments for Career Development (1990); CE228BK90
Career-Development Infusion (1990); CE230BK90
Equity/Nontraditional Career Recruitment and Counseling (1987); CE217BK87
Establishing and Operating a Career Resource Center (1990); CE226BK90
Evaluation of Career-Development Student Competencies and Career-Development Programs (1990); CE229BK90
Family Involvement in Career Development (1990); CE227BK90
School/Work Transition (1988); CE220BK88

EDUCATION FOR THE DISADVANTAGED
Dropout and Retention in Vocational Education Programs (1989); DD026BK89
IMTS Computer Software (1988); DD024FL88

DIVERSIFIED OCCUPATIONS EDUCATION
Diversified Cooperative Training (1987); DO128BK87
Microcomputer Programs for Diversified Education (1988); DO132BK88

GENERIC
Bilingual Vocational Education (1988); GE115BK88
Competency-Based Instructional Materials (1988); GE117FL88
Computer Literacy for Vocational Exploration Programs (1986); GE009FL86
Implementing Competency-Based Vocational Education, A Resource Guide (1985); GE010BK83
Integrating Basic Skills into Vocational Education (1988); GE116BK88
Vocational Instructional Materials for Special Needs Groups (1981); HA013BK81

HEALTH OCCUPATIONS EDUCATION
Emergency Medical Services (1987); HO178BK87
Medical Assisting (1986); HO179BK86
Microcomputer Programs for Health Occupations Education (1988); HO180BK88

HOME ECONOMICS EDUCATION
Child Care (1988); HE310BK88
Home and Family Management (1985); HE247BK85
Microcomputer Programs for Home Economics Education (1988); HE312BK88

INDUSTRIAL EDUCATION
Apprenticeship (1988); IE560BK88
Biomedical Equipment Technology II (1985); IE276BK85
Commercial Foods and Culinary Arts (1984); IE256BK84
Communications Electronics (1985); IE268BK85
Computer Electronics/Servicing Technology (1985); IE279BK85
Electromechanical, Robotics, and Hard Automation Technology (1985); IE272BK85
Electronics Technology (1985); IE266BK85
High Technology (1986); IE505FL86
Microcomputer Programs for Industrial Education (1987); IE506BK87
Technology Education (1990); IA112BK90
Welding (1986); IE380BK86

MARKETING EDUCATION
Business Management and Ownership (1986); ME134BK86
Entrepreneurship (1988); ME141BK88
Fundamentals of Marketing Bibliography (1987); DE132BK87
Marketing and Distribution (1984); DE114BK84
Microcomputer Programs for Marketing and Distributive Education (1988); ME140BK88

TEACHER EDUCATION
Managing CBVE (1987); TE080BK87
Vocational Staff Development (1987); TE079BK87

To request a bibliography for any of these program areas, contact:

Florida Educational Information Service
Center for Instructional Development and Services
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